

Message Text

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SUBJECT: ARMS CONTROL IMPACT STATEMENT FOR LANCE ENHANCED
RADIATION WARHEAD

THE ADMINISTRATION'S ARMS CONTROL IMPACT STATEMENT FOR THE
LANCE ENHANCED RADIATION WARHEAD (W-70) FOLLOWS. STATEMENT
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WAS TRANSMITTED TO CONGRESS JULY 13. POSTS MAY DRAW ON
TEXT AS APPROPRIATE WITH HOST GOVERNMENTS. WE EXPECT THAT
TEXT WILL BE DECONTROLLED. BEGIN TEXT.

.....ARMS CONTROL IMPACT STATEMENT

PROGRAM TITLE: W-70 MOD 3 (LANCE) WARHEAD

I. PROGRAM SYNOPSIS:

A. DESCRIPTION:

THE W-70 MOD 3 IS BEING DEVELOPED TO SATISFY AN ARMY REQUIREMENT FOR A LOW-YIELD ENHANCED RADIATION (ER) WARHEAD FOR THE LANCE MISSILE SYSTEM.

ENHANCED RADIATION IS ACHIEVED BY FUSION REACTIONS THAT PRODUCE HIGH ENERGY NEUTRONS. WHEN THESE NEUTRONS

ARE PRODUCED IN CONNECTION WITH RELATIVELY LOW-YIELD FISSION REACTIONS, THE RANGE OF EFFECT OF THE NEUTRONS IS GREATER THAN THE RANGE AT WHICH BLAST OR THERMAL EFFECTS ARE LETHAL. AT HIGHER YIELDS, BLAST AND THERMAL EFFECTS PREDOMINATE OVER BOTH NEUTRON AND GAMMA RADIATION EFFECTS OF ANY TYPE. BY EMPLOYING ER AS THE TARGET DAMAGE MECHANISM, A REDUCTION IN COLLATERAL DAMAGE IS ACHIEVED SINCE LOWER YIELDS ARE REQUIRED WHEN PERSONNEL ARE THE TARGETS RATHER THAN EQUIPMENT. FOR EXAMPLE, A 1KT ER WARHEAD GIVES THE SAME APPROXIMATE DAMAGE EXPECTANCY OF TANK CREW INCAPACITATION THROUGH RADIATION EFFECTS AS A 10KT FISSION WARHEAD DOES THROUGH RADIATION EFFECTS.

THE LANCE IS A HIGHLY MOBILE SURFACE-TO-SURFACE, BALLISTIC LIMITED OFFICIAL USE
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MISSILE SYSTEM WHICH CAN PROVIDE TACTICAL NUCLEAR ARTILLERY SUPPORT TO THE BATTLEFIELD THROUGH ATTACKS ON EITHER FIXED TARGETS OR NON-FIXED TARGETS (E.G., TANK BATTALIONS IN STAGING AREAS). THE NUCLEAR LANCE MISSILE HAS A MAXIMUM RANGE OF 130KM WITH A CEP (CIRCULAR ERROR PROBABLE) OF 400M-450M. LANCE HAS REPLACED THE HONEST JOHN AND SERGEANT MISSILE SYSTEMS IN THE US FORCES IN EUROPE AND IS REPLACING THE HONEST JOHN AND SERGEANT IN MOST NATO COUNTRIES (UK, FRG, BELGIUM, NETHERLANDS, ITALY) IN BOTH CASES ON A LESS THAN ONE-FOR-ONE BASIS, THUS REDUCING THE NUMBER OF FORWARD-DEPLOYED NUCLEAR SYSTEMS AND WEAPONS. (A TOTAL OF 92 LANCE LAUNCHERS ARE NOW PROGRAMMED FOR EUROPE.) ADDITIONALLY, TWO LANCE BATTALIONS WILL BE BASED IN THE US WITH ONE PRESENTLY EARMARKED FOR DEPLOYMENT IN THE PACIFIC SHOULD THE NEED ARISE. THE LANCE SYSTEM IS MORE SURVIVABLE AND MORE RESPONSIVE THAN THE SYSTEMS IT REPLACES, AND IT HAS A SELECTABLE YIELD CAPABILITY. ITS LONGER RANGE ALLOWS IT TO REMAIN FURTHER BEHIND THE FORWARD EDGE OF THE BATTLE AREA (FEBA) AND THUS CONTRIBUTES TO ITS SURVIVABILITY. THE LONGER RANGE ALSO FACILITATES TARGETING ACROSS CORPS BOUNDARIES.

B. RATIONALE:

AN ER WARHEAD PROVIDES INCREASED KILL CAPABILITY PRINCIPALLY AGAINST PERSONNEL AND REDUCES COLLATERAL

EFFECTS (BLAST AND THERMAL). IT HAS LESS EFFECT ON STANDARD MILITARY EQUIPMENT THAN A FISSION WEAPON OF THE SAME YIELD. WITH THIS WEAPON ARMORED VEHICLES, WHICH ARE RELATIVELY UNAFFECTED BY BLAST EFFECTS EXCEPT AT CLOSE RANGE, CAN BE TEMPORARILY NEUTRALIZED BY RADIATION CASUALTIES OF CREW PERSONNEL. REQUISITE EFFECTS CAN STILL BE ACHIEVED AT MUCH GREATER RANGES, WITH LESS COLLATERAL DAMAGE, THAN COULD BE EXPECTED FROM BLAST PREDOMINANT WEAPONS.

C. FUNDING:

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ERDA'S TOTAL PROJECTED DIRECT COSTS ARE 32.1 MILLION DOLLARS FOR FY-77 THROUGH FY-80. (SEE FOOTNOTE)

II. ANALYSIS:

THE ER WARHEAD WILL KILL TANK CREWS BY NUCLEAR RADIATION. IN COVERING THE SAME INTENDED TARGET AREA WITH A NON-ER FISSION WEAPON, CASUALTIES TO CIVILIANS AND DAMAGE TO PROPERTY FROM BLAST AND THERMAL EFFECTS IN A CONGESTED REGION WOULD BE GREATER.

IT CAN BE ARGUED THAT THE IMPROVED WARHEAD MAY MAKE INITIAL USE OF NUCLEAR WEAPONS IN BATTLE SEEM MORE CREDIBLE WHICH MIGHT ENHANCE DETERRENCE. HOWEVER, BY THE SAME TOKEN, IT CAN BE ARGUED THAT IT INCREASES THE LIKELIHOOD THAT NUCLEAR WEAPONS WOULD ACTUALLY BE USED IN COMBAT. IN ANY EVENT, THE ESCALATING POTENTIAL IS THE SAME FOR THIS WEAPON AS FOR ANY OTHER NUCLEAR WEAPON.

THE POLITICAL EFFECTS OF DEPLOYING ENHANCED RADIATION WARHEADS RELATE TO CHARACTERISTICS WHICH MAY BE IMPUTED TO THE ENTIRE CLASS OF ENHANCED RADIATION WEAPONS RATHER THAN TO THE LANCE WARHEAD ALONE. POTENTIAL EFFECTS ON THE NUCLEAR THRESHOLD LIE MORE IN THE GRAY AREA OF PERCEPTION -- US PUBLIC, ALLIED, SOVIET, AND THIRD WORLD -- THAN IN JUDGMENTS BASED ON HARD ANALYTICAL CRITERIA OR WEAPONS CHARACTERISTICS. THIS CLASS OF WEAPONS IS MORE DEPENDENT ON RADIATION THAN ON BLAST OR THERMAL YIELDS, BUT NOT ENTIRELY SO. IT IS DESIGNED PRIMARILY AGAINST PERSONNEL AND LESS AGAINST MATERIAL AND SHELTERING STRUCTURES. SOME WILL SEE THIS CLASS OF WEAPONS AS MORE PLAUSIBLE FOR BATTLEFIELD USE THAN OTHER KINDS OF NUCLEAR

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WEAPONS AND MIGHT INFER A GREATER US WILLINGNESS TO ENGAGE IN NUCLEAR WAR.

SOVIET PERCEPTIONS ARE DIFFICULT TO ANALYZE. THERE IS NO EVIDENCE THAT THE DEVELOPMENT OF THIS SYSTEM WOULD HAVE ANY EFFECT ON SOVIET DOCTRINE FOR THE INITIATION OF NUCLEAR WAR OR THAT THE SOVIETS WOULD BE LESS LIKELY TO ESCALATE A NUCLEAR EXCHANGE IF ER WEAPONS WERE USED BY THE US RATHER THAN STANDARD FISSION WEAPONS. THEY WOULD PRESUMABLY FOLLOW THEIR OWN DOCTRINES WHETHER OR NOT THIS FOOTNOTE: COST DATA PROVIDED BY ENERGY RESEARCH DEVELOPMENT ADMINISTRATION. THE ERDA BUDGET ESTIMATE (AS AMENDED FOR FY-78) SUPPLIED TO CONGRESS CITES A FIGURE OF 43.3 MILLION DOLLARS FOR FY-78, OF WHICH 14.4 MILLION DOLLARS ARE

DIRECT COSTS. END FOOTNOTE.

WEAPON IS INTRODUCED. THE FACT THAT THE W-70 MOD 3 WARHEAD MAY CAUSE LESS COLLATERAL DAMAGE TO CIVILIANS AND PROPERTY IN NATO TERRITORY CANNOT BE EXPECTED TO MODERATE SOVIET RESPONSE. ITS USE WOULD BE NO LESS LIKELY THAN THE PRESENT WARHEAD TO EVOKE SOVIET RETALIATORY USE OF TACTICAL NUCLEAR WEAPONS. UNLESS THE SOVIET FORCES ARE SUPPLIED WITH A COMPARABLE WARHEAD, THEIR RESPONSE WOULD CREATE THE KIND OF DEVASTATION THAT THIS WARHEAD IS DESIGNED TO PREVENT.

THUS, THE PRESIDENT WOULD BE FACED WITH A DECISION OF THE SAME NATURE WHETHER OR NOT THIS CLASS OF WEAPONS OR OTHER TACTICAL NUCLEAR WEAPONS ARE USED. IF ER WEAPONS ARE DEPLOYED, THE SOVIETS WILL CONTINUE TO ACCUSE THE US OF CONTRIBUTING TO THE ARMS RACE IN EUROPE. THERE IS LITTLE DOUBT THAT THE SOVIETS WOULD SEIZE ON PUBLICIZED MATERIALS ALLEGING THAT US DEVELOPMENT OF ER WEAPONS MAKES NUCLEAR WAR MORE LIKELY BY LOWERING THE THRESHOLD.

IN THE US CASE, THE PROSPECT OF ESCALATION WOULD REMAIN A LIMITED OFFICIAL USE
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CENTRAL COMPONENT OF A US DECISION TO USE NUCLEAR WEAPONS REGARDLESS OF THE PERFORMANCE CHARACTERISTICS OF THIS OR OTHER CLASSES OF NUCLEAR WEAPONS. THUS, ANY US DECISION TO USE NUCLEAR WEAPONS IS IN ALL LIKELIHOOD INSENSITIVE TO WHETHER OR NOT ER WEAPONS WERE DEPLOYED.

THERE IS NO EVIDENCE THAT NATO GOVERNMENTS WOULD BE PARTICULARLY CONCERNED ABOUT LANCE DEPLOYMENT WITH THIS WARHEAD. NEVERTHELESS, PUBLIC DISCUSSION OF THE SORT NOW TAKING PLACE HERE COULD AFFECT NATO ATTITUDES.

THE W-70 MOD 3 DEVELOPMENT AND DEPLOYMENT WOULD NOT BE AFFECTED BY THE TTBT SINCE THE UNDERGROUND TESTING OF WARHEADS UNDER 150 KT IS NOT PROHIBITED.

A CTB WOULD POSE LIMITATIONS ON THE FURTHER DEVELOPMENT OF THIS CLASS OF WEAPONS SINCE OVER THE LONG TERM FURTHER TESTING WOULD BE REQUIRED. CONCLUSION OF A TEST BAN TREATY WITH NO PNE EXCEPTION DURING THE NEXT FEW YEARS WOULD LIMIT THE DEVELOPMENT AND REFINEMENT OF SUCH WEAPONS BY BOTH SIDES.

WITH REGARD TO MBFR, THE WESTERN PROPOSAL DOES NOT AFFECT LANCE LAUNCHERS. NEITHER DOES THE WESTERN WARHEAD PROPOSAL SELECT SPECIFIC TYPES OF WARHEADS FOR REMOVAL. DEVELOPMENT AND DEPLOYMENT OF THE W-70 MOD 3 COULD, HOWEVER, BE CITED BY THE SOVIETS AS EVIDENCE THAT THE US PROPOSAL WOULD INVOLVE ELIMINATION OF OBSOLETE WEAPONS WHILE ACTUAL CAPABILITY IS BEING UPGRADED.

SOME GOVERNMENTS MIGHT COUPLE A DECISION TO DEPLOY ER WEAPONS WITH PERCEPTIONS THAT US DOCTRINE HAS CHANGED SO AS TO MAKE THE USE OF NUCLEAR WEAPONS MORE LIKELY IN A LIMITED OFFICIAL USE
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TACTICAL SITUATION; SUCH A COUPLING COULD HAVE AN ADVERSE EFFECT ON US EFFORTS TO PREVENT FURTHER NUCLEAR PROLIFERATION.

IN CONCLUSION, THIS WEAPON SYSTEM HAS NO ARMS CONTROL ADVANTAGES. TO THE EXTENT IT HAS ANY IMPACT ON ONGOING ARMS CONTROL NEGOTIATIONS, THE IMPACT WOULD BE marginally NEGATIVE. A DECISION TO CROSS THE NUCLEAR THRESHOLD WOULD BE THE MOST AGONIZING DECISION TO BE MADE BY ANY PRESIDENT. THESE WEAPONS WOULD NOT MAKE THAT DECISION ANY EASIER. BUT BY ENHANCING DETERRENCE, THEY COULD MAKE IT LESS LIKELY THAT THE PRESIDENT WOULD HAVE TO FACE SUCH A DECISION. END TEXT. VANCE

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